

ARIZONA DROUGHT REPORT

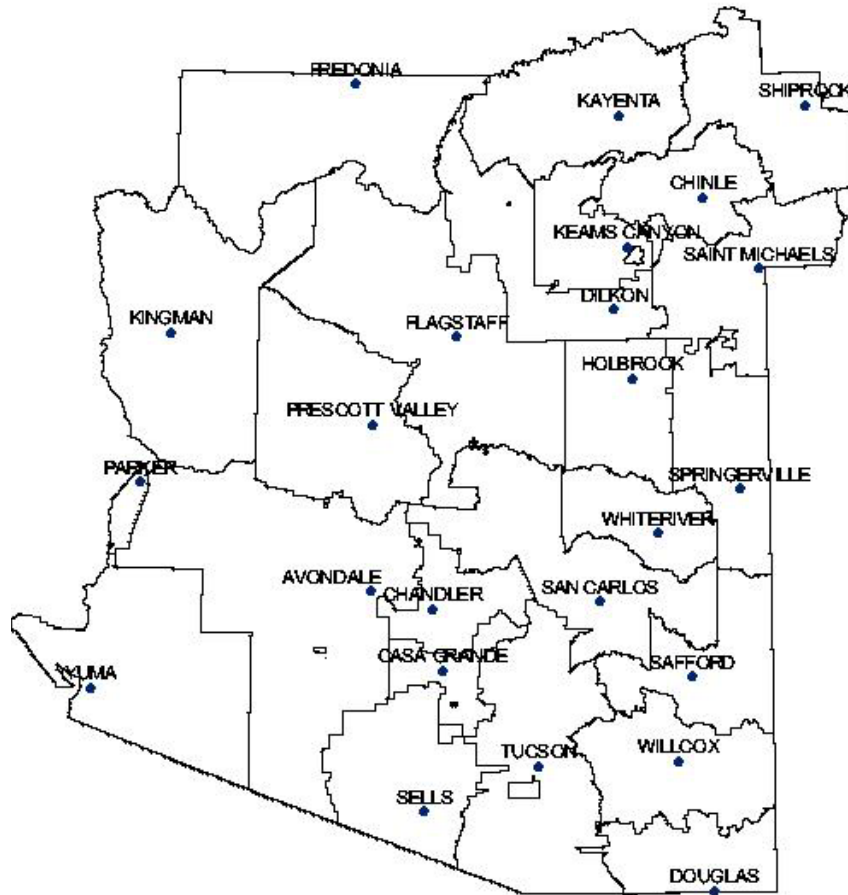
April 2006

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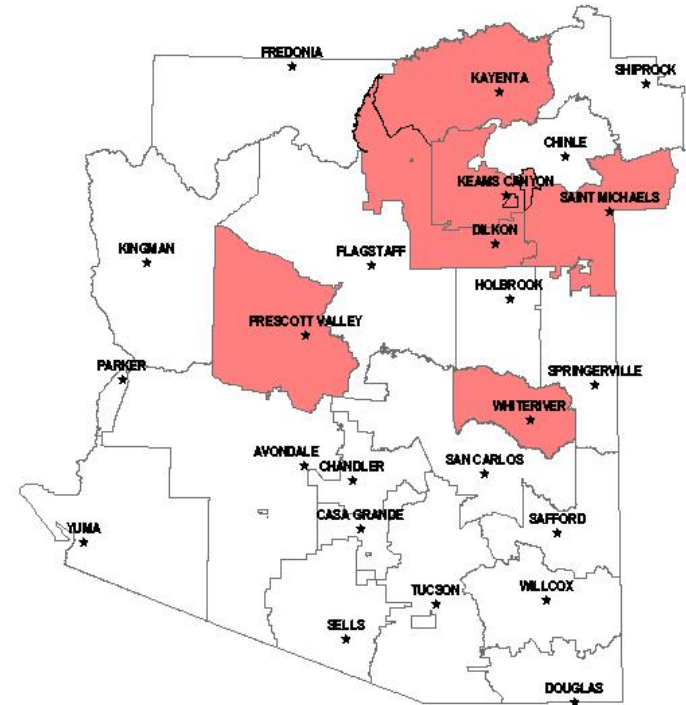
NRCS Field Offices



- NRCS has 24 Field Offices located throughout the state.
- These District Conservationists and staff provide the on-the ground knowledge and data collection.
- A survey was sent to all Field Offices in March 2006 to assess the impacts of the winter drought of 2005-2006.

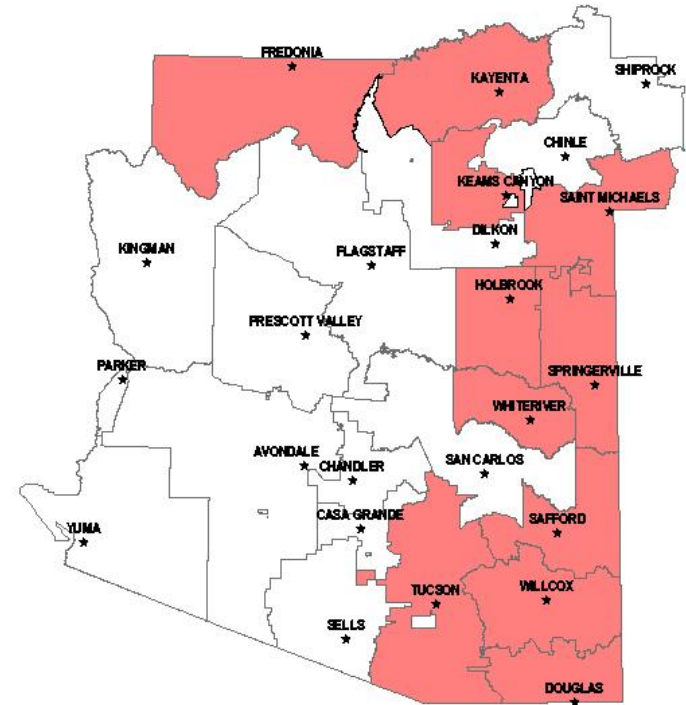
Drought Impacted Dryland Cropland

- A 73% average crop production loss is expected on about 9,000 acres of dryland cropland.
- Crops affected include corn, melons, squash, small grain, fruit orchards, and pasture.



Drought Impacted Irrigated Cropland

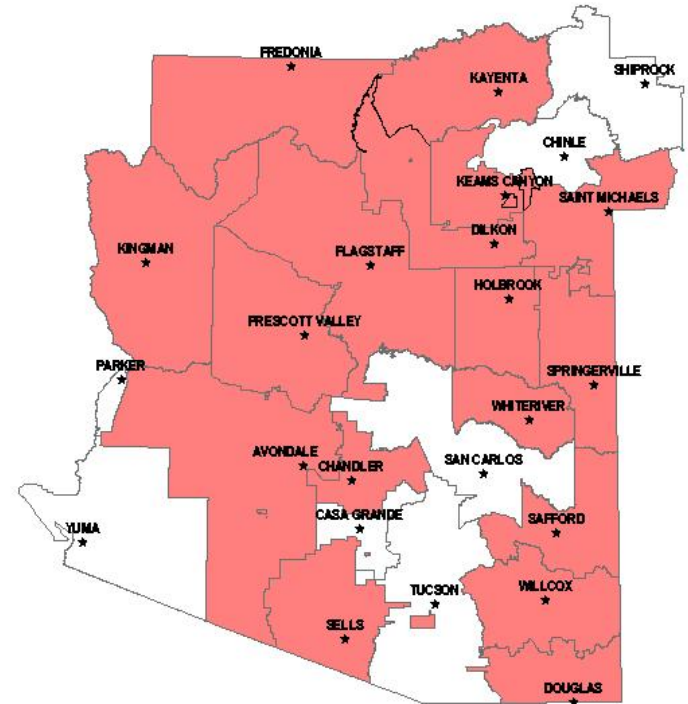
- A 37% average crop production loss is expected on over 52,000 acres of irrigated cropland.
- Crops affected include chili, corn, squash, beans, cotton, small grains, alfalfa, fruit and nut orchards, and irrigated pasture.
- Affected water sources are primarily surface water, but they also include some wells.



Livestock Water

- 40% of Arizona's rangeland currently has no livestock water.
- 65% of dirt ponds are currently dry.
- Only 25% of the dirt pond storage capacity is available state wide.
- 30% of springs are currently dry.
- 7% of livestock wells are dry.

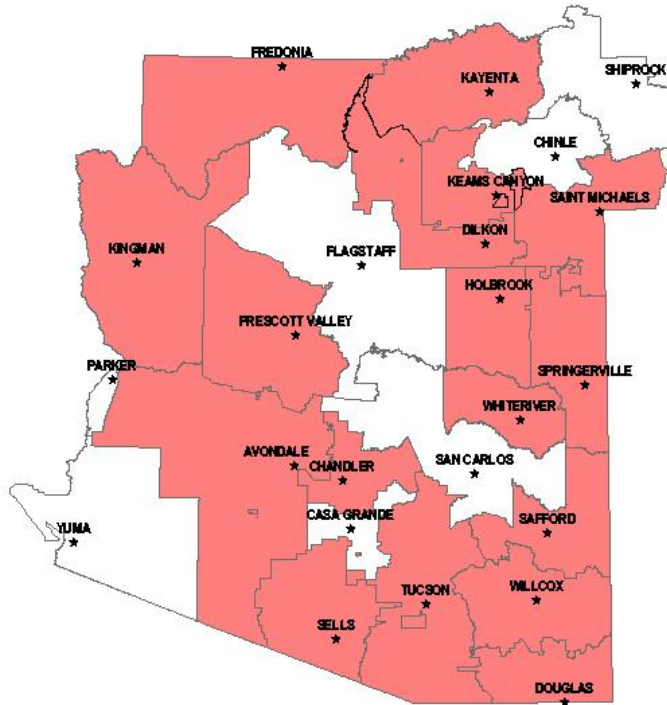
Areas Hauling Water



One third of Arizona's ranchers are currently hauling water

Rangeland Forage Production

Areas Providing Supplemental Forage



- 44% of normal forage is currently available statewide
- Spring forage production is expected to be 43% of normal
- Livestock numbers are down 35% from normal years.

Recent Drought History

Spring of 1999

- Most of Arizona had below normal rainfall since the middle of 1995. This culminated in the one of the driest winters since the 1800s.
- Stream flows were running about 15 percent of normal.
- On June 25th, 1999 Arizona Governor Jane Hull issued a Statewide Drought Proclamation. She also wrote a letter to Secretary of Agriculture Glickman requesting federal drought assistance.

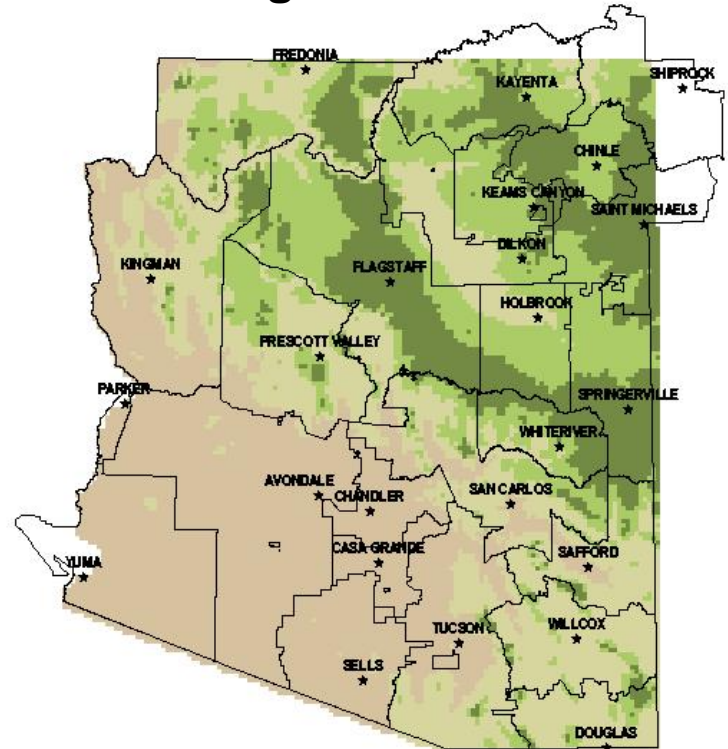
1999 – 2000

- NRCS piloted an Emergency Watershed Protection (EWP) drought program for 2 years to defer grazing on Arizona's most drought affected watersheds.
- Unfortunately, NRCS collected cover data on these ranches for runoff calculations instead of forage production data.

NRCS Forage Loss Reports

- NRCS began developing forage loss reports for the USDA Farm Services Agency in 2002.
- The reports compare actual clipped forage production at locations around Arizona to normal year production in NRCS ecological site descriptions.
- The reports estimate forage losses in each Major Land Resource Area.

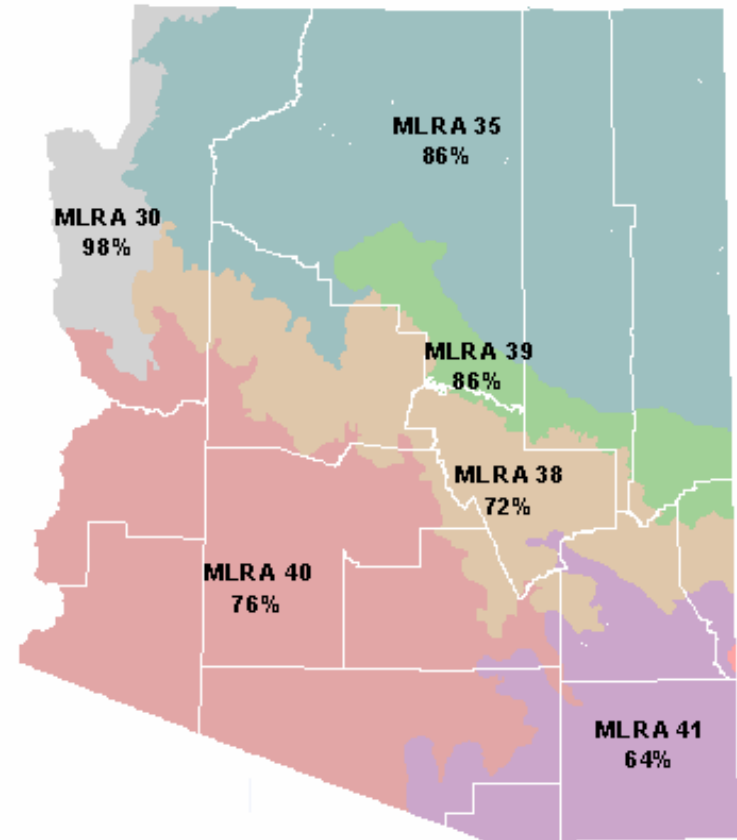
Important Elevation Zones For Vegetation in Arizona



2002 Forage Loss Report

- Total precipitation for January through November 2002 was the 2nd lowest in 108 years for that 11-month period.
- NRCS collected forage production data statewide. Forage losses ranged from a low of 15% at one location in Pima County, to a high of 99 percent at one location in Mohave County.

Arizona 2002 Average Forage Losses By Major Land Resource Area



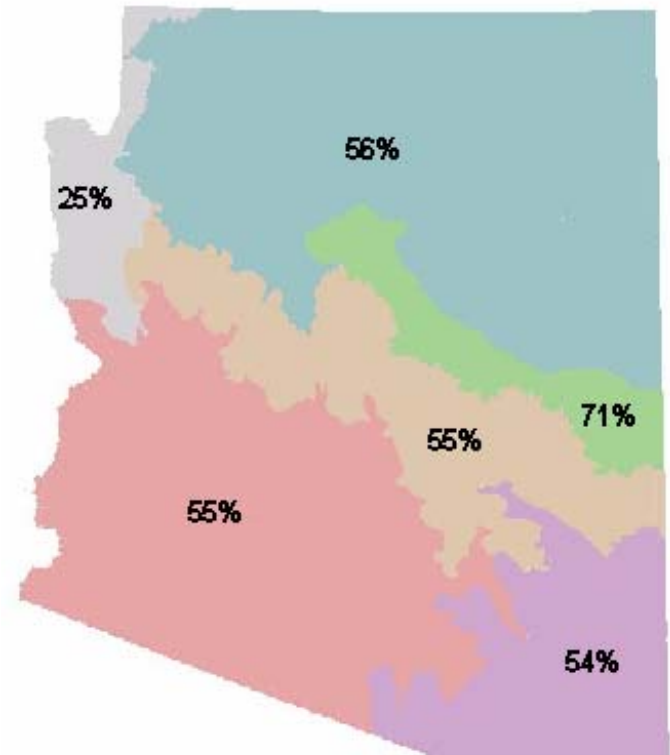
<u>MLRA</u>	<u>MLRA Name</u>	<u>% Forage Loss</u>
30	Mohave Desert	98
40	Sonoran Desert	76
38	Interior Chaparral Transition	72
41	Southeastern Basin and Range	64
35	Colorado Plateau	86
39	Mogollon Coniferous Forests	86
Statewide Average		73

2003 Forage Loss Report

- Conditions improved somewhat across many parts of Arizona from 2002, with some of the desert areas receiving near normal rainfall.
- Forage production ranged from above average at some locations in Maricopa, Mohave, and Yavapai County, to a 91 percent forage loss at one location in Yavapai County.

<u>MLRA</u>	<u>MLRA Name</u>	<u>% Forage Loss</u>
30	Mohave Desert	25
40	Sonoran Desert	55
38	Mogollon Transition	55
41	Southeastern Basin and Range	54
35	Colorado Plateau	56
39	Mogollon Coniferous Forests	71
Statewide Average		51

**Arizona 2003 Forage Losses
By Major Land Resource Area**

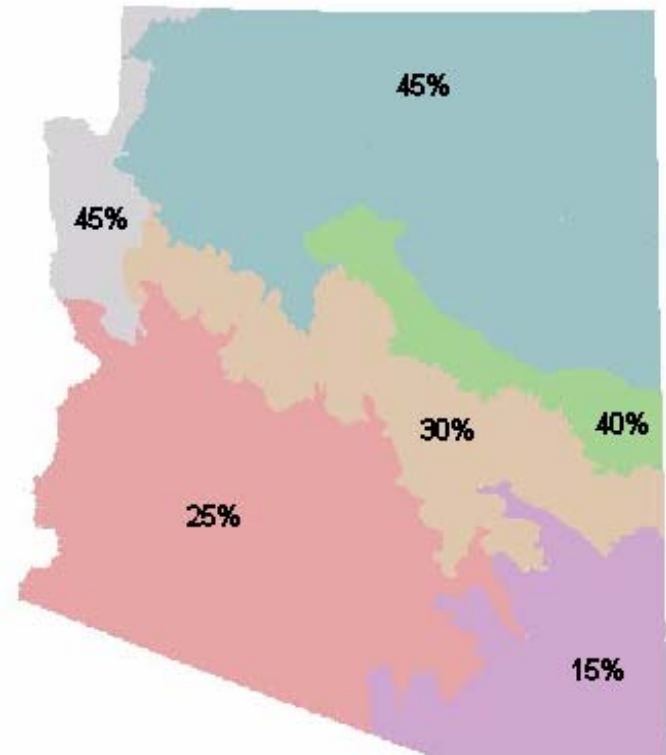


2004 Forage Loss Report

- Most of Arizona remained in drought conditions.
- Conditions continued improving from 2003, with some areas receiving above normal rainfall.
- Average rainfall across the entire state for the 2004 water year (Oct 1 – Sep 30) was about 80 percent of normal.

<u>MLRA</u>	<u>MLRA Name</u>	<u>% Forage Loss</u>
30	Mohave Desert	45
40	Sonoran Desert	25
38	Mogollon Transition	30
41	Southeastern Basin and Range	15
35	Colorado Plateau	45
39	Mogollon Coniferous Forests	40
Statewide Average		33

**Arizona 2004 Forage Losses
By Major Land Resource Area**

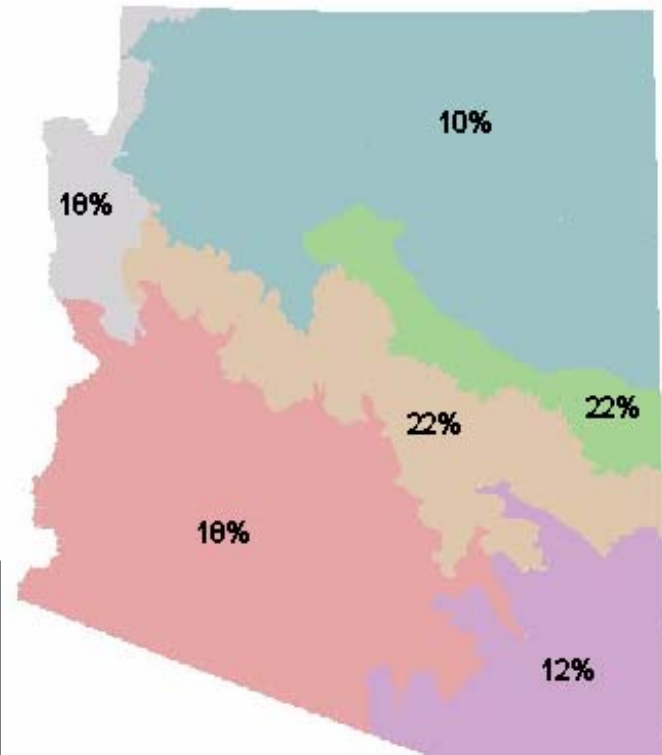


2005 Forage Loss Report

- Above average precipitation in the winter and spring resulted in a significant improvement in drought conditions during the first half of 2005.
- Most ranchers in Arizona were able to maintain or slightly increase the number of livestock they had grazing on rangeland from 2004.
- The estimated number of livestock grazing on rangeland is about 65 percent normal.

<u>MLRA</u>	<u>MLRA Name</u>	<u>% Forage Loss</u>
30	Mohave Desert	18
40	Sonoran Desert	18
38	Mogollon Transition	22
41	Southeastern Basin and Range	12
35	Colorado Plateau	10
39	Mogollon Coniferous Forests	22
Statewide Average		15

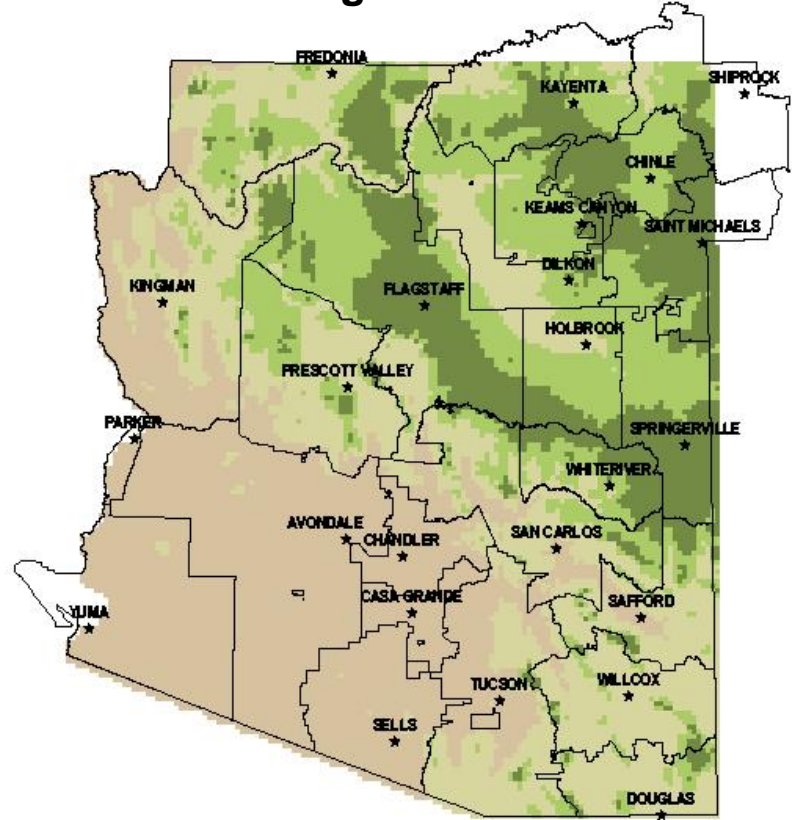
**Arizona 2005 Forage Losses
By Major Land Resource Area**



Current Forage Conditions

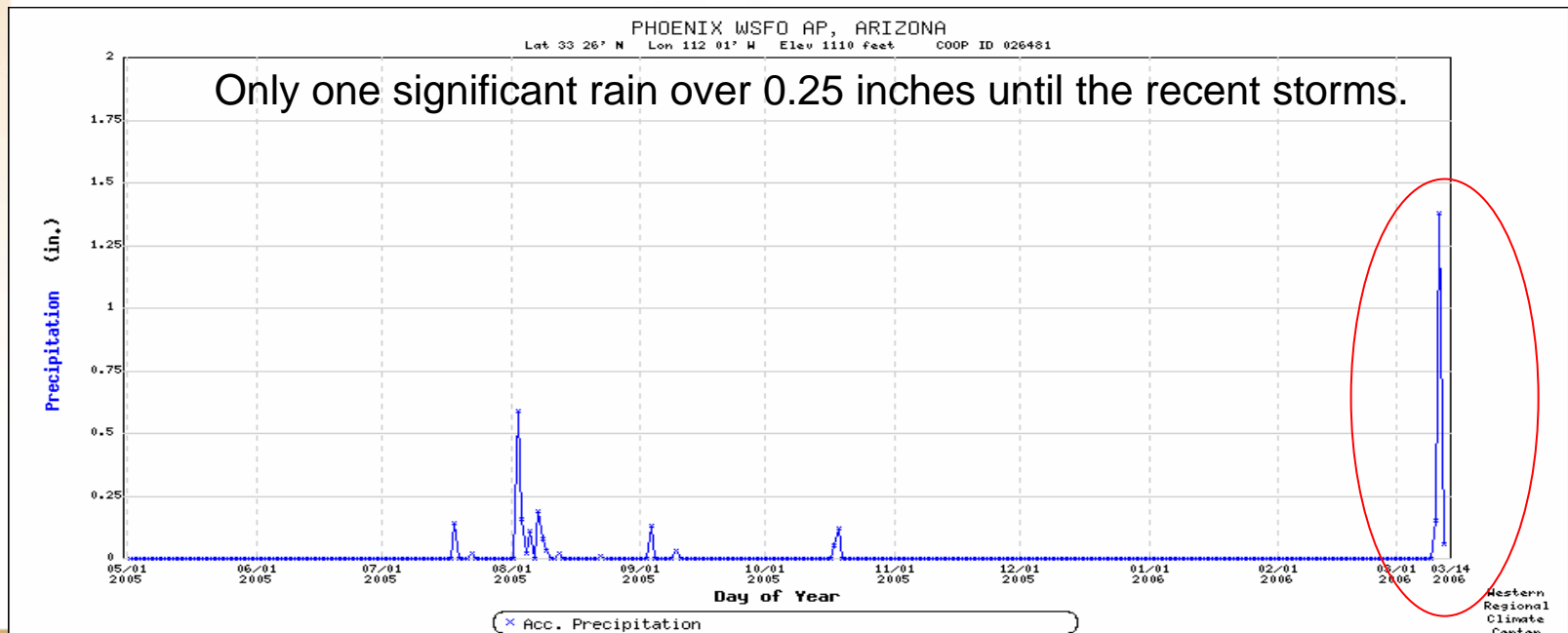
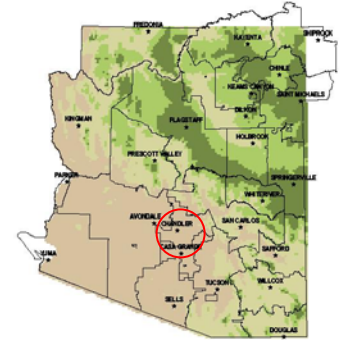
- The winter drought of 2005-2006 started in late October, 2005.
- There was a 10 to 22 percent background forage loss going into the 05-06 winter drought.
- Drought conditions have dominated Arizona since 1995.

**Important Elevation Zones
For Vegetation in Arizona**



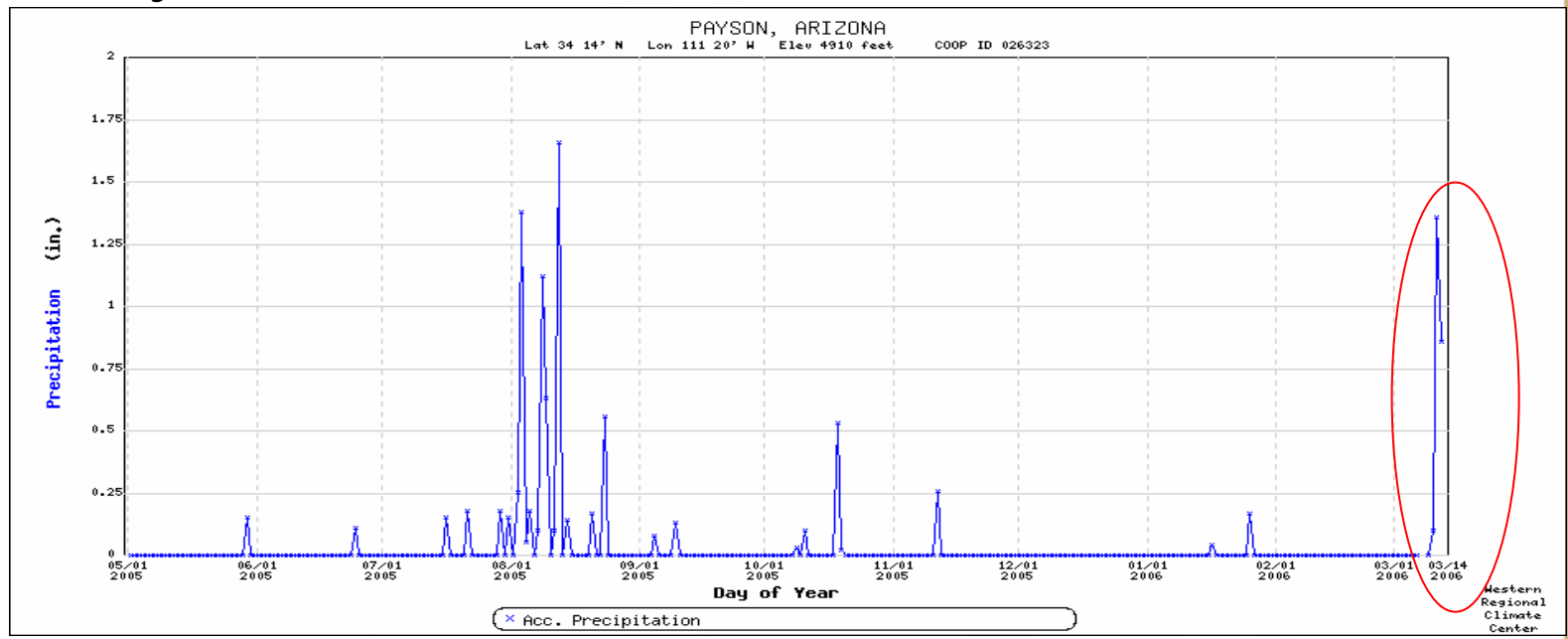
Lower Elevations

- Desert annuals normally germinate in the fall and produce some growth throughout the winter. The maximum growth normally occurs late February through early April. Annuals will germinate in the deserts with recent March rains, but will dry quickly as temperatures hit 90. Summer rain will not significantly improve forage conditions in the desert areas.



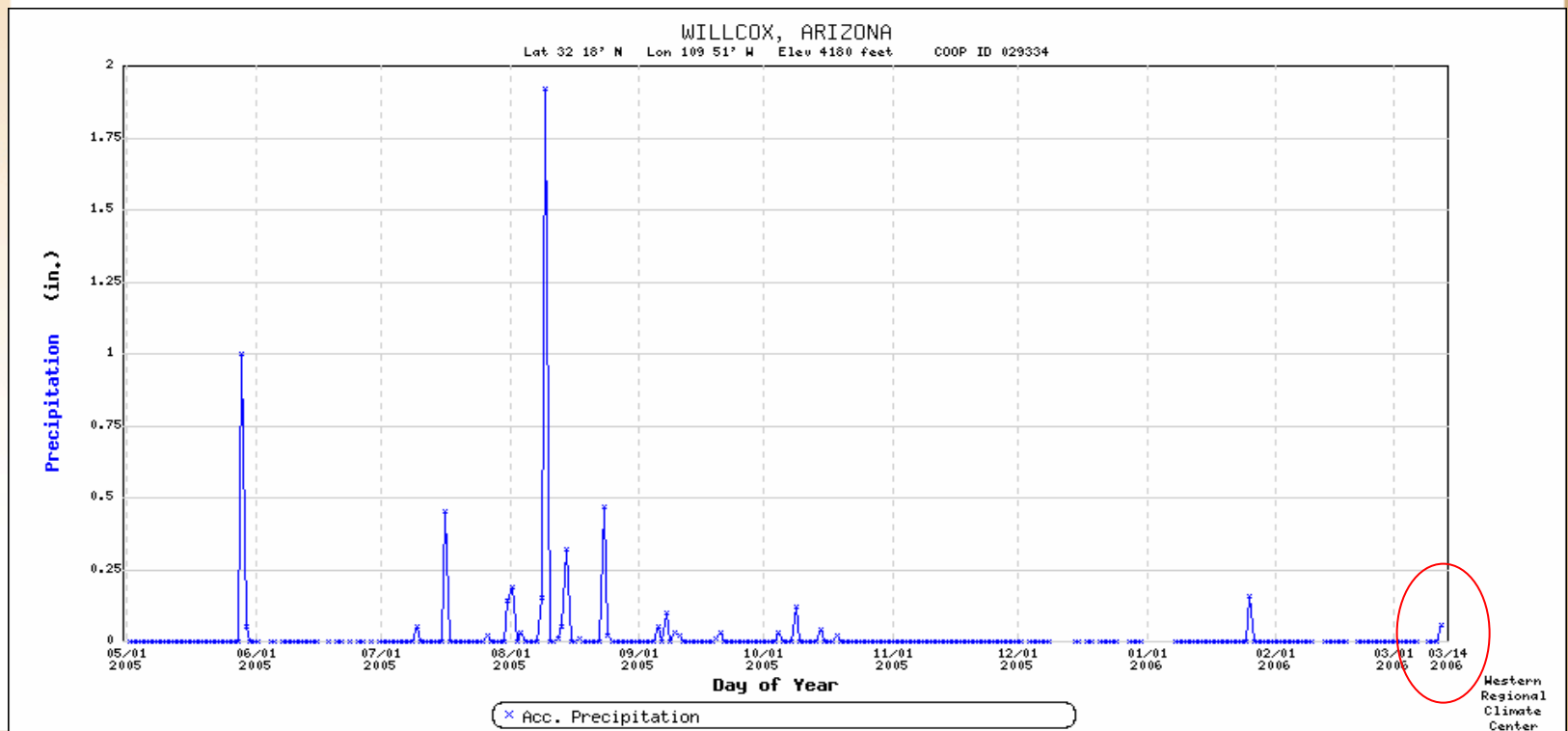
Middle Elevations

- Forage production between 3200 and 6000 feet elevation comes from a mix of perennial grasses and shrubs. Annuals make up an important portion of the spring forage growth in areas below the Mogollon Rim. Normal summer rain could help reduce forage losses. Many perennial forage plants have died over the last few years.



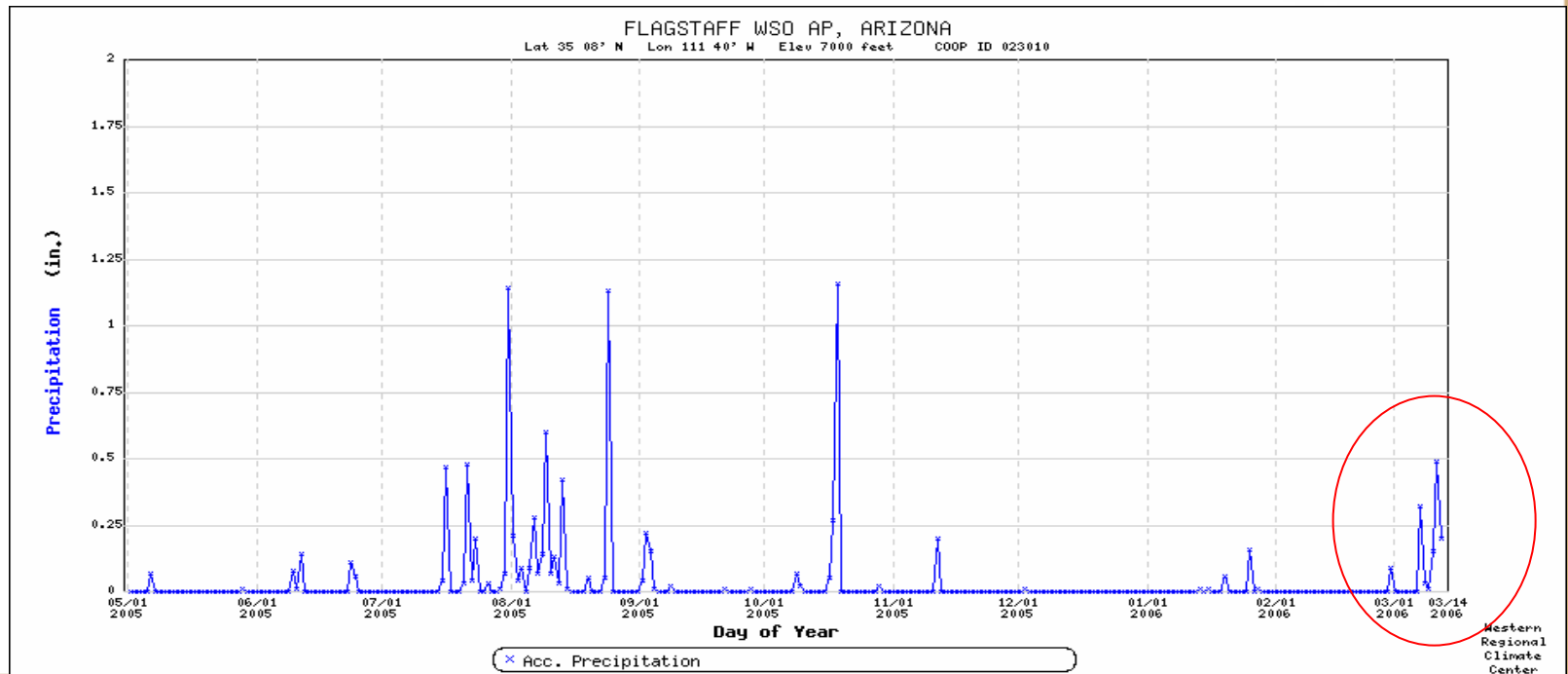
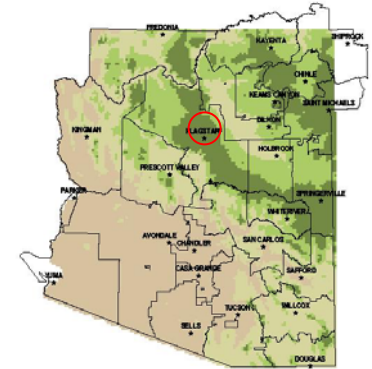
Southeast Corner

- No significant rain has occurred in the southeast corner of the state since August, 2005. Recent rains have missed much of southern Arizona.



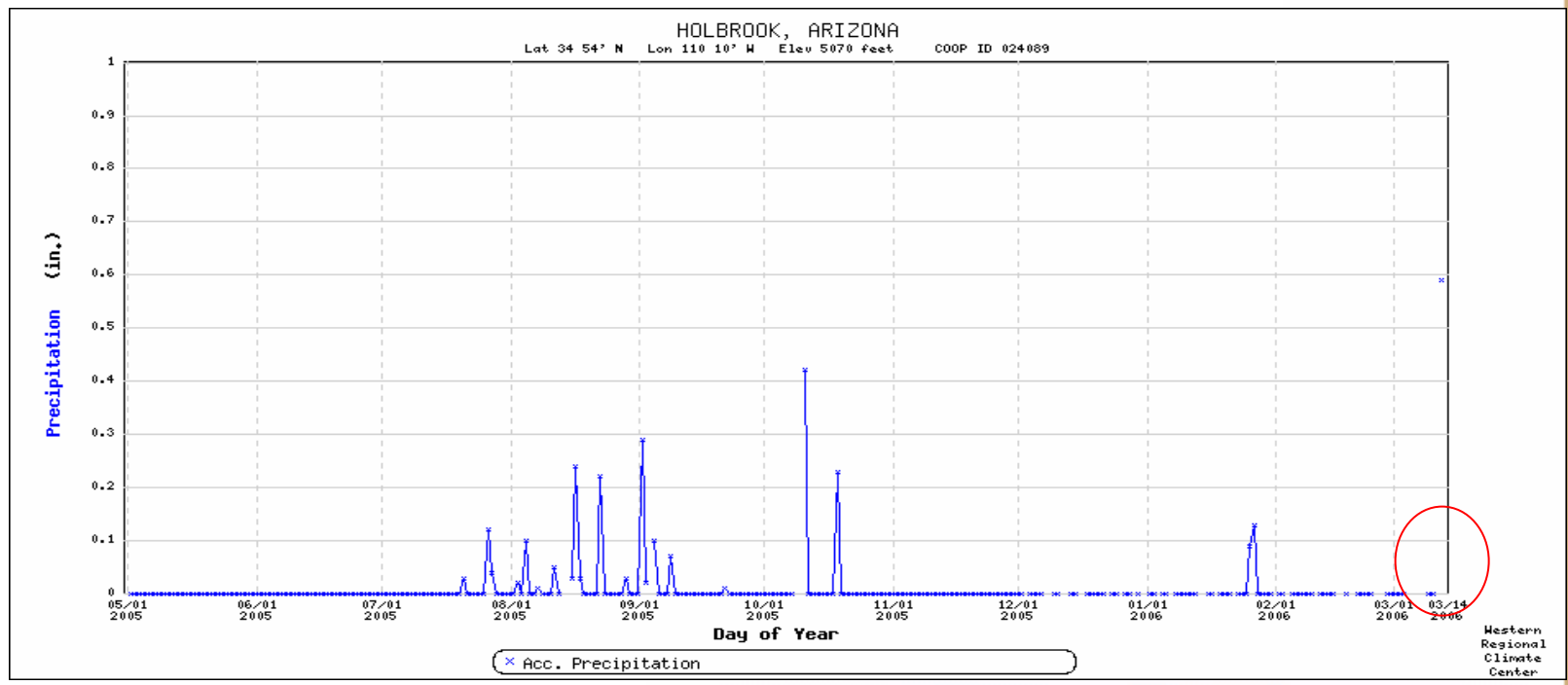
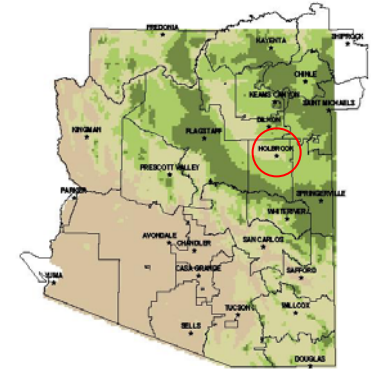
Higher Elevations

- Spring growth has not yet started above 6000 feet Most of the winter drought occurred while herbaceous plants were dormant. Recent precipitation may allow normal spring production as temperatures warm.



Colorado Plateau

- Many areas on the plateau had some precipitation through November, and a small storm in February. Nothing significant over 0.25 inches since October 2005. Note that the earlier March rains missed this country.



Recommendations



- State and federal programs should encourage developing reliable water where forage is available, and deferring grazing where watershed protection is needed.
- Providing supplemental water or feed on drought depleted rangelands is not a sound resource management strategy.
- Ranchers need a way to keep their base herds together during the drought. Options include irrigated pasture, rented rangeland in other states, or feedlots.